

FATE OF AN UNCOMPLETED POSTHYPNOTIC SUGGESTION¹

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This study was designed to test the possibility that Ss who resist completing a posthypnotic suggestion may, at a later time, in a situation which is not seen as related to the hypnotic session, carry out the earlier suggested behavior. Such Ss were found to fall within the medium range of hypnotizability as evaluated over three sessions by the Stanford Scales of Hypnotizability. The Ss with low hypnotizability failed to complete the posthypnotic suggestion and did not demonstrate a subsequent tendency toward the earlier suggested behavior. The Ss with high hypnotizability tended to complete the posthypnotic suggestion and, in about half of the cases, demonstrated a subsequent tendency toward the earlier suggested behavior. Within the medium range of hypnotizability were found those Ss who did not complete the posthypnotic suggestion, but subsequently, in the extrahypnotic setting, behaved in accordance with the earlier suggestion. Hypnotizability as an overall characteristic was clearly related to the demonstration of this action tendency.

A suggestion given to a hypnotized S that he will, after trance has terminated, carry out a certain behavior in response to a specified cue is referred to as posthypnotic suggestion. The phenomenon of posthypnotic suggestion provides a focal point for the study of issues which are relevant to hypnosis at both the clinical and the theoretical levels.

Classically, posthypnotic suggestion has been conceptualized as an isolated idea which was automatically carried out by S, usually without his conscious awareness of its origin (Erickson & Erickson, 1941; Forel, 1907; Gurney, 1886-1887). It has been considered analogous to an impulse by such early investigators as Moll (1890) and, more recently, Guze (1951). Clinicians concerned with the possible consequences of posthypnotic suggestions have long advocated that prior to dismissing an S, he should be rehypnotized and all posthypnotic suggestions removed, regardless of whether or not they had been carried out. This precautionary mea-

sure is derived from the classical conception that a suggestion given during hypnosis will remain active subsequently, even though S will have no conscious memory for its content (Prince, 1929). Further, while the relationship with the hypnotist might be crucial at the time the suggestion was given, the response was considered to be quasi-automatic in the service of intrapsychic needs, and essentially autonomous from the hypnotist. From such a formulation, it would not only follow that Ss would respond in the absence of the hypnotist, but also that there might well be a residual effect from posthypnotic suggestions which S for some reason had failed to carry out.

This phenomenon is illustrated by an anecdote reported by White³ about a classroom demonstration of hypnosis. The instructor gave a deeply hypnotized student the suggestion that prior to leaving the lecture hall, he would place a chair upon the desk in front of the room. The suggestion was not carried out, presumably because S felt embarrassed and successfully resisted his impulse. While working late in his office that afternoon, the instructor heard a strange noise and on investigating its source was able to observe the student quietly place a chair on the desk in the now deserted lecture hall and leave the room in as quiet a manner as he had entered!

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³ White, R. W. Personal communication to Martin T. Orne, 1959.

The classical view of posthypnotic suggestion has been challenged by Fisher (1954), who tried to demonstrate that *S*'s response after the termination of trance is a function of his belief in whether or not the experiment is still in progress. Extending this view, Barber (1958) showed that trance induction is not essential to demonstrate posthypnotic suggestions and that *S*'s response is a function of implicit and explicit cues from the hypnotist and will persist only so long as *S* believes his relationship with *E* to be that of subject to hypnotist. Orne, Sheehan, and Evans (1968), modifying Fisher's original procedure, showed that *Ss* who are able to respond to very difficult hypnotic suggestions in the presence of the hypnotist would carry out posthypnotic behavior even in his absence under circumstances which they believed to be outside of the experimental context. Using a variety of control procedures, they showed that these findings could not be accounted for by differential cues from the hypnotist.

The experimental work on the aforementioned posthypnotic suggestion, as well as Damaser's (1964) study on the duration of posthypnotic suggestion, differs from the present study in that the earlier work focuses on those *Ss* who carry out a posthypnotic suggestion and, further, is concerned with their response within the context specifically implied by the posthypnotic suggestion.

In contrast, the present study is designed to investigate the effect of a posthypnotic suggestion that is not completed when tested by the hypnotist. The authors wished to create a laboratory analogue to the situation described by White (see Footnote 3) which would allow us to observe whether an *S* who had failed to carry out a posthypnotic suggestion would nonetheless show a subsequent tendency toward the suggested behavior. In addition, it was felt crucial to provide a situation where the behavior could be carried out in a manner that would not readily be recognized as related to the posthypnotic suggestion. Such a situation would have to occur after the hypnotic part of the experiment was definitely over and involve an activity clearly independent of the hypnotic session and the hypnotist.

It was essential to suggest a task which

could be carried out in response to the posthypnotic suggestion, but which might equally well be incorporated into one's behavior after the experimental session was finished. The *Ss* were required to fill out numerous questionnaires in the course of participating in the present research, and the choice of writing implement seemed potentially useful as such a criterion of response. If an *S* were given a suggestion that he was to play with a blue pencil when the hypnotist removes his glasses, he might or might not carry out the suggestion. Subsequently, however, when asked to fill out a questionnaire, he might choose to use a blue pencil to do so. Assuming that *S* did not perceive *E*'s interest in his choice of writing instrument for the questionnaire as part of the hypnotic experiment, his choice of a blue pencil would provide evidence that the posthypnotic suggestion had an effect in determining his behavior outside the context of the specifically defined hypnotic session.

If the choice of a blue pencil in order to fill out a postexperimental questionnaire—after the hypnotist has left him—is a posthypnotic response, the present authors would predict it should be closely related to *S*'s response to other, more conventional items. In terms of hypnotizability as measured with standard scales, the authors would predict that *Ss* would rank in hypnotizability between those who are highly hypnotizable (and therefore would originally have carried out the posthypnotic suggestion) and those who show little or no hypnotic effect on this or any of the other items. In other words, if the choice of a blue pencil in such a situation is a form of posthypnotic response, it should also relate lawfully to *S*'s responses to other hypnotic items during the formal testing of hypnosis, even though the pencil choice as such is not part of the hypnotic session. On the other hand, if the use of a blue pencil after hypnosis is not a function of hypnosis, there should be no lawful relationship between it and hypnotizability.

METHOD

Subjects

The *Ss* were 50 undergraduate males, ages 18–22, who volunteered in response to a poster placed on the campus of the University of Pennsylvania which

advertised "Paid Psychological Experiments," and which explained that an initial assessment of susceptibility to hypnosis would be involved. The Ss had participated in no previous experiments conducted in this laboratory, nor had they any previous experience with the Stanford Hypnotic Susceptibility Scales (Weitzenhoffer & Hilgard, 1959, 1962).

Procedure

The experiment consisted of three separate sessions scheduled on 3 different days, always at least 3 days apart. The Ss were scheduled originally for only one session, and further sessions were arranged at the end of each experimental session. The purpose of the experiment was explained as investigating the parameters of the normal phenomenon of hypnotizability and relating the ability to other psychological indexes. The Ss filled out various questionnaires on each of their successive visits to the laboratory. Nine Ss could not be rescheduled and were excluded from the data analysis. Although the crucial experimental test was made during the third session, Ss were given no reason to suspect that the third session was particularly crucial for this experiment, and, in fact, many Ss were rescheduled after this session for further studies.⁴

Every experimental room in the laboratory, as well as the waiting room, was equipped with a pencil well that contained a clear plastic ball-point pen, one red pencil, one blue pencil, one green pencil, one chartreuse pencil, two yellow pencils, and an eraser stick. From the beginning, an attempt was made to have the pencils seem used and to have the arrangement of the pencil well appear natural. They were, however, consistently arranged in the following manner: the two yellow pencils and the ball-point pen were at the front of the well closest to where the S would naturally sit; the eraser stick and the green and chartreuse pencils were along the sides of the pencil well; the red and blue pencils were against the back of the pencil well and were least accessible to S. The colored pencils had the same kind of eraser as the more widely used yellow pencils, and all had the usual kind of black lead. Pencils were kept sharpened and were appropriately arranged before each experimental session. To eliminate size as a determinant of choice, all pencils were approximately the same length, though of sufficient variation to appear natural.

Experimental Session 1. Upon arriving at the laboratory, S was greeted by a secretary-receptionist in the waiting room and asked to complete a form which provided identifying information. Unknown to S, the secretary noted which writing instrument S used for this form (Observation 1a).⁵

After completing the addenda form, S was introduced to E, who took S to one of the experimental rooms, discussed the functions of the laboratory, and answered any questions S might have about hypnosis. The E then asked S to complete three questionnaires (as filler items) and left the room. The S's choice of writing instrument for these questionnaires was recorded by a research assistant,⁶ who observed S through a one-way screen (Observation 1b).

After the questionnaires were completed, E administered the Stanford Hypnotic Susceptibility Scale, Form A (SHSS: A) of Weitzenhoffer and Hilgard (1959) without modification. After the hypnotic session, E asked S to check on a Subjective Depth Form, scaled 1-10, how deeply hypnotized he felt he had been. The E noted S's choice of writing instrument for this task (Observation 1c), and S was then returned to the waiting room where he was rescheduled by the secretary, paid, and asked to sign a receipt. The secretary observed S's choice of writing instrument for the receipt (Observation 1d).

Experimental Session 2. The S was asked by the secretary to complete a questionnaire in the waiting room, and she again noted S's choice of writing instrument (Observation 2a). Then S was introduced to a female research assistant,⁷ who administered the Stanford Hypnotic Susceptibility Scale, Form B (SHSS: B, Weitzenhoffer & Hilgard, 1959) without modification. After the hypnotic session, S again checked the Subjective Depth Form, and his choice of writing instrument was observed by the research assistant (Observation 2b). The S was returned to the waiting room where his choice of writing instrument for the signature of a receipt was noted by the secretary (Observation 2c).

Experimental Session 3. The S was administered the Stanford Hypnotic Susceptibility Scale, Form C (SHSS: C) of Weitzenhoffer and Hilgard (1962) with one modification: the addition of a posthypnotic suggestion after the first sentence in Item 12. The posthypnotic suggestion was as follows:

Soon you will awaken. After you are completely awake, when I take off my glasses you will notice some pencils on the desk in front of you, and you will have a compelling urge to pick up a blue pencil and play with it. When I take off my glasses you will feel a compulsion to pick up a blue pencil. You will have the urge to do this when I take off my glasses. You need not remember that I told you to do so, just as you may forget other things until I tell you 'Now you can remember everything.' Regardless, when I take off my glasses you will feel a compelling urge to pick up a blue pencil and play with it.

⁴ The scheduling assistants who convinced all Ss to return for the three sessions were Rochelle Steinfeld and Mary McElroy.

⁵ If S asked during any of the experimental sessions what he was to write with, he was directed toward the pencil well with the statement, "You may use one of these." If S inquired as to whether pen

or pencil were appropriate, he was answered with, "It doesn't matter." Rachel Wampler served as secretary-receptionist and recorded this data.

⁶ Mary Louise Burke and Carole Spencer recorded the pencil choice observations during both SHSS:A and SHSS:C sessions.

⁷ Luise E. Miller administered the SHSS:B scales.

The SHSS: C was then completed precisely as written, continuing with the second sentence of Item 12 (SHSS: C, p. 29).

After *S* was awakened and following the sentence "I want to ask you a few questions about your experience [SHSS: C, p. 30]," *E* removed his glasses for a 10-sec. interval, while he casually searched for the amnesia scoring sheet among the papers on the desk. He then put on his glasses and did not remove them again. After amnesia was tested, any questions or comments by *S* were routinely handled.

After it was clear that the hypnotic session had been discussed fully to the satisfaction of both *E* and *S*, *E* then asked *S* if he would please complete a few questionnaires before leaving and also check the Subjective Depth Form again. The *E* relinquished his seat at the desk to *S* and left the room. Through a one-way screen, a research assistant^o observed and recorded *S*'s choice of writing instrument for the questionnaires (Observation 3a). It should be noted that when the cue to complete the posthypnotic suggestion was given, *S* was seated such that the blue pencil was relatively the most available pencil for him to select, but by the time he began the questionnaires, his position had changed and the blue pencil was now the least accessible.

The *E* returned to the experimental room in 15 min. and administered the AO H-R-R Pseudoisochromatic Plates (for detection of color blindness), followed by a shortened version of the Embedded Figures Test (Witkin, 1950). The former was included in order to rule out color blindness as a factor influencing the pencil choice. None of the *Ss* included in the data analysis were color blind. Both tests were presented to *S* as "perceptual tests." The *S* then returned to the waiting room where the secretary again observed which writing instrument was used to sign the receipt (Observation 3b).

RESULTS

Pencil Selection

It was necessary to establish that *S* would not tend to use a blue pencil without the posthypnotic suggestion. A base line of pencil choices, without *S*'s awareness of our interest in this item of behavior, was established prior to Session 3.

Table 1 shows the number of times each writing implement was chosen in each of *S*'s three sessions in the laboratory. During Session 1, *S* had four possible choices; during Session 2, three possible choices; and during Session 3, two possible choices. Although many *Ss* used a variety of writing instruments in any one session and several *Ss* chose more than one pencil per observation period, an analysis of this tendency to change pencils revealed no significant relationship to pencil choice following SHSS: C.

TABLE 1
FREQUENCY OF CHOICE OF WRITING INSTRUMENT
IN SESSIONS 1, 2, AND 3

Writing instrument	Session 1 (SHSS:A) ^a	Session 2 (SHSS:B) ^b	Session 3 (SHSS:C) ^c
Own	70	33	18
Pen	39	45	29
Yellow	70	41	24
Green	8	4	7
Chartreuse	11	9	3
Red	8	15	1
Blue	3	3	25
Total	209	150	107

Note.—SHSS refers to Stanford Hypnotic Susceptibility Scale, of which Forms A, B, and C were given. Some *Ss* made more than one choice per observation, accounting for the totals exceeding the product of number of observation periods times number of *Ss* in Sessions 1 and 3, $N = 50$.

^a Number of observation periods = 4.

^b Number of observation periods = 3.

^c Number of observation periods = 2.

The data revealed that the most frequently chosen writing instruments in Sessions 1 and 2 were the yellow pencil, ball-point pen, and *S*'s own pen or pencil. This is easily explained by the fact that these instruments were the most accessible to *S*, either by virtue of personal possession or through relative position in the pencil well. The data from Sessions 1 and 2 provided a base line of pencil choice within the laboratory and enabled comparison with subsequent choice following the introduction of the experimental variable, i.e., the posthypnotic suggestion to "pick up a blue pencil." The latter suggestion clearly influenced subsequent pencil choice, as inspection of Table 1 reveals.

A comparison of the number of *Ss* who used the blue pencil prior to SHSS:C with the number of *Ss* who used the blue pencil after SHSS:C revealed a significant increase ($p < .001$) in choice of the blue pencil following SHSS:C (McNemar chi-square test of change).

Table 2 more clearly highlights the effect of the posthypnotic suggestion of subsequent pencil choice by comparing the frequency with which each writing instrument was chosen in SHSS:A and SHSS:B (average of the two sessions) versus SHSS:C. Inspection of Table 2 indicates that the significant difference ($p < .001$, chi-square goodness of fit) is attributable to the marked increase in the use of the blue pencil.

TABLE 2

FREQUENCY OF CHOICE OF WRITING INSTRUMENT IN
STANFORD HYPNOTIC SUSCEPTIBILITY SCALES,
FORMS A AND B VERSUS STANFORD
HYPNOTIC SUSCEPTIBILITY SCALE,
FORM C

Writing instrument	Expected frequency ^a	Observed frequency	χ^2
Own	27.74	16.82	4.30
Pen	24.34	27.11	0.32
Yellow	30.41	22.43	2.10
Green	3.24	6.54	3.36
Chartreuse	5.63	2.81	1.42
Red	6.91	0.93	5.17
Blue	1.71	23.36	274.11

Note.— χ^2 total = 290.78, $p < .001$.

^a Average of the frequencies from Stanford Hypnotic Susceptibility Scales, Forms A and B.

*Pencil Selection and Hypnotizability*⁸

The Ss were divided into three groups on the basis of their posthypnotic performance following SHSS:C: (a) those who failed to carry out the posthypnotic suggestion (PHS) and did not use the blue pencil subsequently (−PHS−pencil); (b) those who failed to carry out the posthypnotic suggestion but did use the blue pencil subsequently (−PHS + pencil); and (c) those who carried out the posthypnotic suggestion (+PHS ± pencil).⁹ Table 3 portrays the hypnotizability for each of these groups during each of the three sessions. A Kruskal-Wallis one-way analysis of variance for Session 3 (SHSS:C) shows a significant difference in hypnotizability ($p < .01$) among the three groups which confirms our prediction. Further, it should be noted that the same relative order of hypnotizability appeared in Ss' hypnotic scores that was obtained during the first ($p < .10$) and second ($p < .01$) sessions, using the same statistical test.

The group of Ss who responded to the posthypnotic suggestion could, of course, also be

⁸ The mean SHSS:A score for all Ss in the present experiment was significantly ($p < .01$) lower than a comparable volunteer group used in an earlier study (O'Connell, 1966). A comparison of the number of Ss passing the posthypnotic suggestion or the amnesia item in SHSS:A in the present study and in O'Connell's (1966) study revealed no significant differences.

⁹ Data from Ss ($N = 6$) who used a blue pencil during Sessions 1 or 2 are excluded from the present analysis, as there was no way of ascertaining whether Ss' earlier use of the blue pencil would influence their choice in Session 3.

divided into those individuals who subsequently used the blue pencil after they had carried out the suggestion (+PHS + pencil; $N = 10$) and those who did not again use the blue pencil after carrying out the posthypnotic suggestion (+PHS − pencil; $N = 8$). No differences in hypnotizability between these two groups were expected, and none were observed.

The difference in hypnotizability in SHSS:C between Ss who did not carry out the posthypnotic suggestion but subsequently used the blue pencil (−PHS + pencil) and the group that neither carried out the posthypnotic suggestion nor used the blue pencil (−PHS − pencil) approached significance ($p < .10$, Mann-Whitney U Test). The difference in hypnotizability in SHSS:C between Ss who carried out the posthypnotic suggestion (+PHS) and the −PHS + pencil group was not significant, whereas the difference in hypnotizability in SHSS:C between the +PHS group and the −PHS − pencil group was significant ($p < .05$, Mann-Whitney U Test).

Of particular interest are some of the patterns which emerged on specific items in differentiating the −PHS + pencil group from the −PHS − pencil group. Applied to amnesia scored in terms of pass or fail according to the criterion used in the Stanford Hypnotic Susceptibility Scale, the Fisher exact probability test (one-tailed) differentiates the two groups ($p < .05$) in Session 1, amnesia being more frequent in the −PHS + pencil group. In Session 3 (SHSS:C), the difference again emerges, with the Fisher exact probability test (one-tailed) reaching a probability level of $p < .10$. This difference is relatively stronger if one considers that amnesia is

TABLE 3

HYPNOTIZABILITY OF GROUPS BASED ON SHSS:
C POSTHYPNOTIC RESPONSE

Group	SHSS:A		SHSS:B		SHSS:C	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
−PHS − pencil ($N = 18$)	5.94	3.14	7.17	2.39	5.83	2.65
−PHS + pencil ($N = 8$)	7.13	3.52	8.38	1.65	7.75	2.33
+PHS ± pencil ($N = 18$)	8.50	2.47	9.78	2.22	8.56	1.27

Note.—SHSS refers to Stanford Hypnotic Susceptibility Scale, of which Forms A, B, and C were given.

TABLE 4

STANFORD HYPNOTIC SUSCEPTIBILITY SCALE, FORM C, ITEM ANALYSIS COMPARING PROPORTION OF Ss IN EACH GROUP PASSING A PARTICULAR ITEM

Item	Groups					
	-PHS - pencil	-PHS + pencil	+PHS ± pencil	-PHS - pencil vs. -PHS + pencil	+PHS ± pencil vs. -PHS + pencil	+PHS ± pencil vs. -PHS - pencil
Hand lowering	1.00	1.00	1.00	ns*	ns	ns
Moving hands apart	0.94	1.00	1.00	ns	ns	ns
Mosquito hallucination	0.50	0.75	0.89	ns	ns	<.025
Taste hallucination	0.56	0.38	0.89	ns	<.025	<.05
Arm rigidity	0.56	0.75	0.72	ns	ns	ns
Dream	0.56	0.88	0.61	ns	ns	ns
Age regression	0.50	1.00	0.89	<.025	ns	<.025
Arm immobilization	0.50	0.75	0.78	ns	ns	ns
Anosmia to ammonia	0.39	0.50	0.56	ns	ns	ns
Hallucinated voice	0.17	0.25	0.50	ns	ns	<.025
Negative visual hallucination	0.11	0.13	0.22	ns	ns	ns
Posthypnotic amnesia	0.06	0.38	0.50	<.10	ns	<.005

* For all ns values, $p > .10$.

possibly more difficult to achieve in SHSS:C, since recall of items may be enhanced by S's experience with at least five items in SHSS:C which are common to SHSS:A and SHSS:B. This possibility is supported by the fact that in the present authors' sample, 60% of Ss passed the amnesia item in SHSS:A, 32% in SHSS:B, and 28% in SHSS:C. The amnesia item did not significantly differentiate the -PHS + pencil group from the +PHS groups, but did differentiate the -PHS - pencil group from the +PHS groups ($p < .01$, Fisher's test).

A further distinction between the -PHS + pencil and -PHS - pencil groups emerged in an analysis of the SHSS:C age regression item. All 8 Ss in the -PHS + pencil group passed this item in contrast to only 9 of 18 in the -PHS - pencil group, resulting in a difference significant at $p < .05$ by Fisher's test.

The most difficult items in terms of pass-fail criteria are the auditory hallucination and the negative visual hallucination in SHSS:C. These items were passed by so few of either the -PHS + pencil or the -PHS - pencil groups that no differences could emerge between the groups. The auditory hallucination and the mosquito hallucination in SHSS:C each significantly differentiated between the -PHS - pencil group and the combined +PHS groups ($p < .05$), but did not significantly differentiate the -PHS + pencil

group from the combined +PHS groups. No significant differences emerged between any of the groups when the relatively easier hypnotic items, ideomotor and challenge items, were compared. A breakdown comparing the three groups in terms of passing or failing the items in Session 3 is contained in Table 4.

DISCUSSION

The present study asks whether Ss who do not carry out a posthypnotic suggestion would nonetheless in another context subsequently demonstrate a tendency to carry out the suggested behavior. The authors felt it essential to choose an item of behavior apparently unrelated to the hypnotic session and to take special care to prevent S from recognizing that the behavior was of interest to the hypnotist or, for that matter, to the laboratory. The pencil choice appeared to be an unobtrusive measure S would not easily identify as relevant.

We would have liked to have had direct evidence about Ss' perception of the pencil choice, since it is of considerable importance theoretically that Ss did not view it as related to the hypnotic tasks, but we chose not to do a detailed inquiry lest we make Ss aware of our interest in the choice of pencil—an interest we felt sufficiently novel to make excellent campus scuttlebutt. Most of the Ss, however, took part in further studies with other in-

investigators within the laboratory, and it is the present authors' practice to discuss *Ss'* past experiences with them preceding any further hypnotic sessions. Working with another investigator, *Ss* are typically asked about any aspects of their past experiences in the laboratory which they felt were striking or particularly interesting. The fact that no *S* reported anything about the choice of pencil lends some indirect support to our belief that we were successful in making this a truly unobtrusive criterion measure.

A somewhat related issue is whether *S's* choice of blue pencil might not have been a form of compliance, because he could somehow have recognized *E's* interest in his choice and responded to it. We hold this possibility to be unlikely since *S* had been given a posthypnotic suggestion to play with the pencil when *E* removed his glasses. If *S* were inclined simply to comply with *E*, he could have done so more easily by carrying out the posthypnotic suggestion. We are cognizant that special active control procedures (Orne, 1969) would be necessary to state absolutely that choice of pencil following SHSS:C was conceived by *S* to be private behavior, but feel that the concept of pencil choice as private behavior is not crucial to the argument that an action tendency may exist beyond the hypnotic context.

In order to validly consider the choice of the blue pencil for the questionnaires as an item of posthypnotic behavior, however, it would be essential to show a differential responsiveness between the -PHS - pencil and the -PHS + pencil groups in other areas of hypnotic performance. Such a difference emerged in relation to posthypnotic amnesia. Factor analytic studies (Evans, 1965; Hammer, Evans, & Bartlett, 1963; Hilgard, 1965; Thorn, 1961) have shown that certain hypnotic items tend to cluster. One such cluster comprises posthypnotic suggestion, posthypnotic amnesia, and hallucinations. Since the authors consider the -PHS + pencil group to be manifesting posthypnotic behavior, it would follow that they should likewise be distinguished from the -PHS - pencil group in terms of posthypnotic amnesia. Such was the case in SHSS:A, where the -PHS + pencil group, in terms of pass-fail criteria, was dif-

ferentiated significantly from the -PHS - pencil group in regard to the amnesia item. The most difficult items in terms of pass-fail criteria are the auditory and negative visual hallucinations. So few of either group passed these items that no differences could be determined. Further substantiation of differential hypnotizability between the -PHS - pencil group and the -PHS + pencil group is afforded by comparing overall hypnotic performance (see Table 3) and by comparing performance on the age regression item in SHSS:C (see Table 4).

Thus, the use of the blue pencil, which the authors interpreted as posthypnotic behavior, showed a remarkably lawful relationship to *S's* response within the hypnotic situation. Not only is hypnotizability as an overall characteristic related to this behavior, but specific kinds of responses to hypnotic suggestions show a striking relationship to it. The use of the blue pencil is characteristic of an *S* who does not respond as well as those who passed the posthypnotic item, but who respond considerably better than those who failed this item and did not use the blue pencil subsequently.

Our findings are in line with those reported earlier that highly hypnotizable *Ss* will carry out a posthypnotic suggestion in an extra-experimental setting (Orne, Sheehan, & Evans, 1968). In the present study, however, the authors have been able to extend this observation to show that even in less deeply hypnotized individuals, the posthypnotic suggestion may create an intrapsychic need to carry out an item of behavior, the execution of which may not even be reported to the hypnotist, and which, for that matter, may even escape *S's* own awareness. This observation may not be surprising to any clinician who has worked with hypnosis or to anyone familiar with the classical conception of the phenomenon. It is, however, a crucial demonstration when viewed in the context of current theories which attempt to explain all hypnotic phenomena as dependent upon *S's* playing an interpersonal role which requires continuing reinforcement and support of the hypnotist. It is difficult to see how such a view can explain the findings reported here.

Of particular interest from a theoretical

standpoint is the fact that the use of the blue pencil outside of the hypnotic relationship is lawfully related to S's response to hypnotic suggestion within the clearly defined hypnotic relationship. This suggests that the effect of other hypnotic suggestions cannot be explained simply on the basis of a face-to-face relationship between subject and hypnotist, but rather requires us to postulate additional mechanisms for their understanding.

Finally, the present study lends support to the clinician's traditional caution that the hypnotist must make certain that he has removed any posthypnotic suggestion, lest these suggestions continue to exert a potent, though not necessarily obvious, effect upon S after the hypnotic relationship has ceased. If such an effect can be demonstrated in the laboratory where the amount of S's involvement is rarely analogous to that obtained in the therapeutic use of hypnosis, there may well be considerable wisdom in this traditional caveat.

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